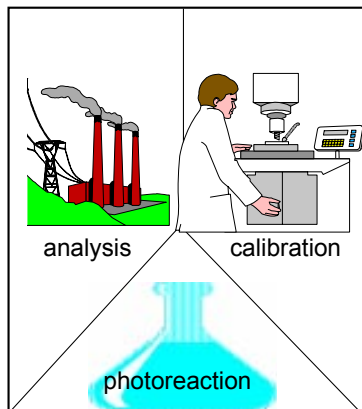
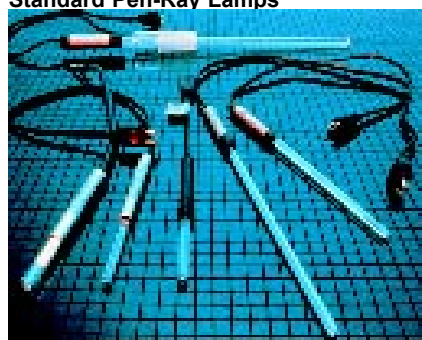


PEN-RAY LAMP APPLICATIONS



Pen-Ray Lamp Applications

Standard Pen-Ray Lamps



Applications

The variety of uses of the Pen-Ray Lamps is increasing as concerns for environmental and quality testing expand. Listed below are some of the known applications for these lamps.

- | | |
|---------------------------------|---------------------------------|
| Chromatography | Spectroscopy |
| Atomic absorption | Fluorescence |
| HPLC detectors | Ozone production |
| Photochemistry | Water sterilization |
| Immunoassay analyzer | Air pollution monitoring |
| UV/ozone cleaning | UV barcode reading |
| Automobile emission testing | Wavelength calibrations |
| TOC analyzer | Fluorimicroscopy |
| UV sensitive catalyst reactions | Microlithography |
| S02 analysis | Approved aerospace applications |
| Mercury analyzers | Penetrant/tracer inspection |
| Sterilization/germicidal | Fluorometry |

Product Selector

Stock Designs

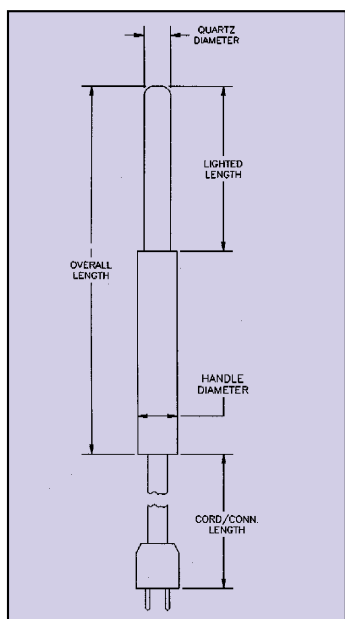
Several standard Pen-Ray Lamp models are described in this section. Additional lamps are discussed throughout the Product Selector section which covers Mercury, Rare Gas, Zinc and Cadmium Lamps as well as Pen-Ray Field Packs, PCQ Lamps, CP Calibration Lamps, Grid Lamps, Microscope Lamps and Ozone Generators.

Mercury Lamps

UVP's standard Pen-Ray Lamps are manufactured from the highest grade of quartz material. Specifications for these standard models are listed on page 5. Some of the models are described below. Custom modifications of these products are available -- options include quartz type and size (see page 9).

90-0012-01 (11SC-1): One of the most popular Pen-Ray Lamps. Its simplicity of physical dimensions lends itself to a multitude of applications. Lamp's lighted length is 2.12" (53.8mm), overall length is 4.62" (117.3mm). Lamp emits Mercury spectrum with the primary energy at 254nm. The nominal voltages are 800V (starting) and 270V (operating). Recommended power supply 99-0055-01 (or 99-0055-02).

90-0019-01 (11SC-1L): The longwave version of the 11SC-1. All properties are identical except the quartz tube is sheathed with a blue filter to absorb visible light, increasing the lighted length to 2.25" (57.2mm) and broadening the outside diameter to 0.375" (9.5mm). The principal emission is 365nm (longwave) by converting the power from 254nm. Power supply 99-0055-01 (or 99-0055-02) is recommended for this lamp.



90-0020-01 (11SC-2): A shorter lighted length (0.75", 19.1mm) version of the 11SC-1 for restricted access. All other properties are identical. Nominal voltages are 800V (starting) and 270V (operating). UVP power supply 99-0055-01 (or 99-0055-02) is recommended to power this lamp.

90-0004-01 (3SC-9): One of the most popular large Pen-Ray Lamp models with a lighted length of 9.0" (228.6mm) and outside diameter of 0.375" (9.5mm). Lamp is used frequently for photoreactions and ozone production. It emits the Mercury spectrum with primary energy at 254nm. Nominal voltages are 640V (starting) and 560V (operating). Recommended power supply: 99-0004-01 (or 99-0004-02).

90-0025-01 (22SC-3S): One of the smallest Pen-Ray Lamp models, it has a lighted length of 1.0" (25.4mm) and an outside diameter of 0.16" (4.0mm) for very small apertures. It emits the Mercury spectrum with the primary energy at 254nm. Nominal voltages are 1000V (starting) and 350V (operating). UVP power supply 99-0056-01 (or 99-0056-02) is recommended to power this lamp.

90-0024-01 (22SC-3L): A longwave version of the 22SC-3S. All properties are identical except the quartz tube is sheathed with a blue filter to absorb visible light, lengthening the lighted length to 2.62" (60.3mm) and broadening the outside diameter to 0.256" (6.5mm). The principal emission is 365nm (longwave) by converting energy from 254nm. UVP power supply 99-0056-01 (or 99-0056-02) is recommended.

Refer to page 11 for **Power Supply** specifications. **Options for Lamp Customization** are shown on page 9.

	Part Number	Lighted Length	Lamp Total Length	Quartz Diameter	Handle Diam.	Primary Output	Cord Length/ Connector
Mercury Pen-Ray Lamps	90-0001-02	7.0" (177.8mm)	9.62" (244.3mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	16"(406.4mm)/std conn.
	90-0001-03	8.0" (203.2mm)	9.62" (244.3mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	16"(406.4mm)/std conn.
	90-0001-04	0.88" (22.4mm)	3.13" (79.5mm)	0.375" (9.5mm)	0.44" (11.2mm)	302nm	3"(76.2mm)/std conn.
	90-0001-05	2.25" (57.2mm)	4.5" (114.3mm)	0.375" (9.5mm)	0.44" (11.2mm)	254nm	16"(406.4mm)/std conn.
	90-0002-01	0.75" (19.1mm)	3.25" (82.6mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	5"(127mm)/stripped
	90-0003-01	2.12" (53.8mm)	4.62" (117.3mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	16"(406.4mm)/std conn.
	9-0004-01	9.0" (228.6mm)	11.6" (294.6mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	16"(406.4mm)/std conn.
	90-0004-07	6.0" (152.4mm)	8.62" (218.9mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	16"(406.4mm)/std conn.
	90-0004-10	9.0" (228.6mm)	11.6" (294.6mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	42"(1067mm)/stripped
	90-0004-11	6.0" (152.4mm)	8.62" (218.9mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	16"(406.4mm)/stripped
	90-0004-12	7.0" (177.8mm)	9.62" (244.3mm)	0.375" (9.5mm)	0.50" (12.7mm)	254nm	30"(762mm)/stripped
	90-0012-01	2.12" (53.8mm)	4.62" (117.3mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	16"(406.4mm)/std conn.
	90-0012-08	2.12" (53.8mm)	4.62" (117.3mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	16"(406.4mm)/std conn.
	90-0019-01	2.25" (57.2mm)	4.75" (12.1mm)	0.375" (9.5mm)	0.375" (9.5mm)	365nm	16"(406.4mm)/std conn.
	90-0019-04	2.12" (53.8mm)	4.62" (117.3mm)	0.375" (9.5mm)	0.375" (9.5mm)	365nm	16"(406.4mm)/std conn.
	90-0020-01	0.75" (19.1mm)	3.25" (82.6mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	16"(406.4mm)/std conn.
	90-0024-01	1.12" (28.4mm)	2.62" (66.5mm)	0.256" (6.5mm)	0.256" (6.5mm)	365nm	60"(1524mm)/std conn.
	90-0025-01	1.0" (25.4mm)	2.38" (60.5mm)	0.16" (4.1mm)	0.256" (6.5mm)	254nm	60"(1524mm)/std conn.
	90-0033-01	0.94" (23.9mm)	2.84" (72.1mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	6"(152mm)/stripped
	90-0037-01	1.50" (38.1mm)	Lamp Shield C	Lamp Shield C	0.375" (9.5mm)	254nm	16"(406.4mm)/std conn.
	90-0041-02	2.12" (53.8mm)	4.62" (117.3mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	5.5"(139.7mm)/special
	90-0059-01	0.75" (19.1mm)	3.25" (82.6mm)	0.256" (6.5mm)	0.256" (6.5mm)	254nm	12"(304.8mm)/stripped
	90-0068-02	0.88" (22.4mm)	2.84" (72.1mm)	0.375" (9.5mm)	0.44" (11.2mm)	285nm	6"(152mm)/stripped
	90-0077-01	1.14" (29.0mm)	3.50" (88.9mm)	0.375" (9.5mm)	0.50" (12.7mm)	365nm	6"(152mm)/6 pin conn.
	90-0077-03	0.95" (24.1mm)	3.50" (88.9mm)	0.375" (9.5mm)	0.50" (12.7mm)	365nm	12"(152mm)/6 pin conn.
90-0079-01	1.0" (25.4mm)	2.90" (73.7mm)	0.375" (9.5mm)	0.44" (11.2mm)	365nm	26.5"(673mm)/stripped	
90-0084-01	1.0" (25.4mm)	3.22" (81.8mm)	0.256" (6.5mm)	0.375" (9.5mm)	254nm	14"(355.6mm)/std conn.	
90-0085-01	4.38" (111.3mm)	4.38" (111.3mm)	0.375" (9.5mm)	0.44" (11.2mm)	365nm	10"(254mm)/crimp	